Cal

The Electric & International Telegraph Co.y

(Incorporated 1846)

Lothbury, London E.C.

Please copy this reference in your answer.

36 P.C.

Nov 10th 1859

My dear Sir

I have looked over
P. Schneiders papers which
you left with me this day
I regret to have to inform
you that the idea of a
spiral conductor is not new
but perhaps (tho' I am not
certain) the idea of Copper
wires wapped round a hemp
or linen - i.e. a non conducting
fibre - may be new
If new it is of no service
for telegraph Cables upon the
following reasons
1st a spiral conductor must
be at least 3 times as long as
a straight conductor & of
1/4 its substance
2nd the old atlantic cable
owing to the small size of its
conductor gave a speed of
less than 1 word per minute
& had a spiral conductor after
schneiders plan been used
the speed would have been reduced
4 × 3 = 12 times at least —
Thus this invention is too
expensive, compared with its results
to be used; even did it meet the
difficulties -
It might answer for
deep sea soundings but

Sc. Varley

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the plan proposed of insulating
from each other
the two wires, with hemp
would not answer because in laying
the Atlantic Cable a depth
of from 2 to 3,000 fathoms
was experienced — corresponding
to 7500 odd pounds on the
inch which will round
free water through almost
anything & would to a
certainty set to the hemp
or linen insulation of the
wires & damp it. thus
connecting them together over
so a great an extent of their
surface that it would
be impossible to see when

the weight touched the
bottom

Trusting that this information
is what you require

I remain

Yours truly

Cromwell F. Varley

R. J. Fell, Esq.

DSI

#19

SCIENCE. VARLEY (CROMWELL F.) 1828-83. Electrical Engineer. F.R.S. son of Cornelius Varley, painter. Consulted as authority on laying of second Atlantic Cable. 3½ pp. 8vo. Electric & International Telegraph Co. London, Nov. 1859 to F.J. Till, why Schneider's invention is not practicable for 2nd Atlantic Cable & giving technical details of first Atlantic Cable "Trusting that this information is what you require".

Myers-72 £15.00

(The first Atlantic Cable, 1858, was a failure & before the project for the second was published, it was referred to a Committee of Robert Stephenson, Sir W. Fairbairn & Varley & it was Varley who made the artificial line which made it possible to predict the speed of signalling.)